Volume 4. Aircraft Equipment and Operational Authorizations

CHAPTER 5. AIR AMBULANCE OPERATIONS

SECTION 3. AIR AMBULANCE SERVICE OPERATIONAL PROCEDURES

1369. GENERAL. This section contains information and guidance to be used by inspectors when evaluating a Title 14 of the Code of Federal Regulations (14 CFR) part 135 operator's special operational procedures for air ambulance operations (helicopter or airplane). This section covers the evaluation of an operator's administrative, preflight, in-flight, emergency, and postflight procedures. To conduct an air ambulance operation, an operator must comply with all of the pertinent requirements of part 135 as well as meet certain requirements for the issuance of air ambulance operations specifications.

1371. ADMINISTRATIVE PROCEDURES. When evaluating an operator's administrative procedures for an air ambulance operations, inspectors should consider the following:

A. Operational Control Procedures. Inspectors should ensure that an operator's procedures for operational control are adequate for the operator's base of operations and for each satellite location (see part 135, § 135.77). According to the definition in Subchapter A of 14 CFR part 1, operational control, with respect to a flight, means the exercise of authority over initiating, conducting, or terminating a flight. In an air ambulance operation, the pilot-in-command (PIC) exercises final authority to initiate, conduct, or terminate an assigned flight.

B. Flight Time and Rest Requirements. Inspectors should ensure that an operator maintains well defined records showing the difference of flight time, rest time, and off duty or unassigned time in accordance with part 135, Subpart F, "Flight Crewmember Flight Time Limitations and Rest Requirements." Air ambulance operators will normally operate under either one of the following regulations:

(1) 14 CFR part 135, § 135.267, "Flight time limitations and rest requirements. Unscheduled one- and two-pilot crews." According to this regulation, the flight crewmembers are allowed to conduct any flight or other duties as assigned, such as training, testing, routine transport missions, while on duty/assignment. For an assignment conducted under § 135.267, flight crewmembers must receive at least 10 consecutive hours of rest during the 24 hour period that precedes the planned completion of the assignment.

(2) 14 CFR part 135, § 135.271, "Helicopter hospital emergency medical evacuation service (HEMES). "The rest requirements for HEMES differ from the requirements for flights conducted under § 135.267. During operations in accordance with § 135.271, provisions must be made for 8 consecutive hours of rest during any 24 hour period, and that 8-hour rest period must be declared in advance. If the flight crewmember does not receive the required rest period, that person must be relieved of the assignment. The operator should establish record keeping to show that only emergency medical evacuation flights are conducted during these assignments. While a flight crewmember is assigned to duty under § 135.271, that person may not be assigned to any other duties. Prohibited duties during a HEMES assignment include, but are not limited to, maintenance test flights, public relations flights, and administrative duties.

NOTE: Inspectors should ensure that operators scheduling under § 135.271 have identified those procedures and policies in their operations manual.

C. Flight-Locating Procedures. To ensure the safe and orderly accomplishment of an air ambulance service mission, each operator should develop a flight-locating system. Air ambulance operations should be conducted using instrument flight rules (IFR) and visual flight rules (VFR) flight plans and procedures, when feasible. The requirements for conducting flights that do not have flight plans filed are in 14 CFR part 135, § 135.79. There must be flight-locating procedures for making the determination of when an aircraft is overdue. The operator's procedures must contain specific actions that are necessary when an aircraft is overdue in the situation. Elements that must be considered by inspectors when evaluating flight-locating procedures include the following:

- Procedures that provide the operator with all the information required to be included in a VFR flight plan
- Procedures that provide for the timely notification of a Federal Aviation Administration (FAA) facility or search and rescue facility, if an

aircraft is overdue or missing (Ensure that a flight-following facility has a trained, dedicated person monitoring the radios with written instructions to follow in the event of an overdue or lost aircraft.)

- Procedures that provide the operator with the location, date, and estimated time for reestablishing radio or telephone communications if the flight will operate in an area where communications cannot be maintained
- Communication procedures ensuring that actual departure times are transmitted to the flight-locating facility
- Procedures ensuring that position reports are made at specified intervals and are received by the flight-locating facility (If a hospital dispatcher is used for flight following, ensure that the dispatcher has written emergency procedures for reestablishing contact with the aircraft and for notification when the aircraft is overdue. If the medical facility does not have an assigned dispatcher, determine where the flight-following radio is located and who has responsibility for monitoring it. A radio in a common area answered by the nearest person is not acceptable.)
- Adequate training on the operator's flight-locating procedures for persons assigned flight-following duties at the operator's flight-locating facility

D. Shift Change Briefing. Inspectors must ensure that the operator has a procedure to ensure that the pilots coming on duty have received information concerning the following:

- Aircraft status (such as fuel, maintenance discrepancies)
- Anticipated flights
- Hazard updates
- Schedule changes
- Name and location of relief pilot
- Any other special circumstances

E. Potential Hazard Information. Inspectors should ensure that helicopter operators have developed a means at each base and satellite location for depicting uncharted hazards (to include the location of wire hazards) in the local flying area that may impair low flight or off site landings. Operators should have established procedures for keeping this information current.

F. Landing Site Depiction. Inspectors should encourage operators to provide a portfolio, notebook, or other media containing photographs, video, drawings, or diagrams of each of the heliports used routinely by the operator. Operators should update this information regularly and keep it available as preflight information. In the event the landing site is not routine, the operator is encouraged to establish adequate procedures for landing, to include air and ground reconnaissance prior to landing.

G. Protection and Control of Infectious Conditions. Operators should have procedures in their operations manual for the disposal and decontamination of medical or hazardous wastes. Operators should also have procedures in their operations manual for infection control and for aircraft cleaning, which may be provided by an associated medical service or hospital or could be contracted to a service company. Inspectors should ensure that precautions for all of the operator's employees are emphasized in the operations manual.

1373. PREFLIGHT PLANNING. When evaluating an operator's preflight planning procedures for an air ambulance service, inspectors should consider the following:

A. Use of Local Flying Area Maps for Helicopter Operations. In addition to the items normally accomplished during preflight planning, the PIC should become familiar with the current map of the area and the uncharted hazards for the area.

B. Weather Considerations. Weather considerations include the capability for obtaining current weather information for the area of operation at the time of the planned flight.

C. Landing Site Update Information. The PIC should review the operator's updated landing site portfolio for current operational information.

1375. IN-FLIGHT PROCEDURES. When evaluating an operator's in-flight procedures for an air ambulance service, inspectors should consider the following:

A. Passenger Briefing Procedures. The passenger briefing required by 14 CFR part 135, § 135.117 may be conducted by a person designated and trained by the operator and approved by the FAA Administrator. If passenger briefing duties are delegated to a medical crewmember, the procedure must be covered in the operator's operations and training manuals. As in all part 135 passenger carrying operations, passenger briefing cards are required for air ambulance operations.

B. Passenger Restraint Procedures. Operators should be encouraged to establish adequate written procedures for the proper restraint of all flight personnel and the proper use of seat belts and shoulder harnesses during air ambulance operations. In addition, it is the responsibility of the PIC to ensure that passengers who may pose a hazard to the aircraft or to its occupants are properly restrained before takeoff (such as hysterical patients or combative passengers).

C. Air-to-Ground Communications. Helicopters used in air ambulance services must have air-to-ground communication systems that ensure the safe and satisfactory completion

of the flight. These systems must ensure that the flightcrew can coordinate with emergency personnel on the scene (such as the state and local police, and fire departments, when applicable).

D. Scene Response Operations. Inspectors and operators normally associate the term "scene response" with helicopter operations; however, scene response operations are not limited to helicopters; they may be airplane operations. Inspectors should consider the following operational procedures regarding scene response operations:

(1) Operators should have established procedures for in-flight coordination with local authorities. The PIC should establish communication with scene personnel (such as the state and local police, and fire departments, when applicable) as soon as possible after takeoff. An airplane, in a remote area with an adequate landing site, should attempt to relay communications through any agency with both aviation and police radios.

(2) The operations manual should have procedures for determining the suitability of the landing site, which should include the following:

- Obstacles
- Crowd control
- Security
- Wind direction and velocity
- Restrictions to visibility
- Illumination of obstacles by ground personnel at night

(3) The PIC must be aware that personnel on the ground may not have been trained to provide the PIC with accurate information from which the PIC can determine the suitability of a landing site. The final responsibility for the determination of the suitability of the landing site remains with the PIC.

(4) After a scene response landing, the PIC should refrain from getting involved with patient care. If the aircraft's engines are not shut down, the PIC should remain at the designated aircraft station and evaluate the takeoff area to predetermine a safe departure. If the engines are shut down, the PIC should make a physical reconnaissance of the intended departure path to determine the location of all obstacles.

NOTE: NOTE: Aircraft station would be the assigned area of responsibility in or around the aircraft during a scene response that would allow the pilot to keep the public and emergency personnel from straying into a danger zone.

(5) The PIC is responsible during scene response operations for ensuring that the operator's safety procedures are complied with for movement in and around the aircraft, including loading and unloading.

(6) The operations manual should have specific policy guidance for coordination procedures between flightcrew and medical personnel.

1377. EMERGENCY PROCEDURES. When evaluating an operator's emergency procedures for an air ambulance service, inspectors should consider the following:

A. Inadvertent Instrument Meteorological Conditions (IMC). Operators must have emergency operational procedures for recovery from inadvertent IMC. These procedures must be in the operator's training manual.

B. In-Flight Medical Emergencies. For in-flight medical emergency situations, operators need procedures for the flightcrew coordination with medical personnel. The PIC must be able to remain excluded from the medical emergency. The PIC should use the "Lifeguard" prefix when communicating with air traffic control (ATC).

NOTE: Inspectors should encourage operators to include in their training program a course for pilots on exercising good judgment in crisis situations.

C. Emergency Evacuation Procedures. Operators must develop emergency evacuation procedures for each make and model of aircraft and aircraft configuration. This should include any additional duties assigned to the medical crew.

1379. SERVICING OF AIRCRAFT WITH PATIENTS ON BOARD. Inspectors should consider the following requirements when evaluating an operator's procedures for servicing aircraft when passengers (patients) are on board:

A. Refueling Procedures. Air ambulance operators may need to conduct operations that are not necessary in conventional part 135 operations, such as the refueling of an aircraft with the engine running or with passengers on board. Before conducting such operations, the operator must develop procedures acceptable to the POI and publish these in the operator's general operations manual (GOM) (see volume 3, chapter 15, section 3). The operator must train and qualify all applicable personnel in these procedures before conducting such operations.

B. Evacuation Procedures. An operator's refueling and oxygen replenishment policies and procedures should include any special considerations for the evacuation of patients in case of emergencies.

1380. SERVICING OF AIR AMBULANCE HELICOPTERS WITH PATIENTS ON BOARD. Inspectors should consider the following requirements when evaluating an operator's procedures for servicing helicopters when passengers (patients) are on board:

A. Refueling Procedures. Air ambulance operators may need to refuel aircraft with the engine running, rotors turning, or with passengers (patients) on board. Before conducting such operations, the operator must develop procedures acceptable to the POI and publish these in the operator's GOM. The operator must train and qualify all applicable personnel in these procedures before conducting such operations.

(1) Only turbine engine helicopters fueled with JET A or JET A-l fuels should be fueled while an engine is running.

(2) Helicopters being refueled while an engine is running should have all sources of ignition of potential fuel spills located above the fuel inlet port(s) and above the vents or tank openings. Ignition sources should include, but should not be limited to:

- Engines
- Exhausts
- Auxiliary power units (APU)
- Combustion-type cabin heater exhausts

(3) Only under the following conditions should operators permit helicopter fueling while engines are running:

(a) A company trained and qualified helicopter pilot should be at the aircraft controls during the entire fuel servicing process.

(b) Patients should be off-loaded to a safe location before rapid refueling operations. Where the pilot in command deems it necessary for patients to remain onboard for safety reasons, all helicopter engine(s) should be shut down and the refueling conducted with the engine(s) off.

(c) Passengers should not load or off-load during rapid refueling operations.

(d) Only designated personnel, properly trained in rapid refueling operations, should operate the equipment. Written procedures should include the safe handling of the fuel and equipment.

(e) All doors, windows, and access points allowing entry to the interior of the helicopter that are adjacent to, or in the immediate vicinity of, the fuel inlet ports should be closed and should remain closed during refueling operations.

(f) Before introducing fuel into the helicopter, the helicopter should be bonded to the fuel source to eliminate the potential for static electricity.

(g) Fuel should be dispensed into an open port from approved dead man-type nozzles, with a flow rate not to exceed 10 gallons-per-minute (38 liters-per-minute), or through close-coupled pressure fueling ports. Where fuel is dispensed from fixed piping systems, the hose cabinet should not extend into the rotor space. The operator should provide a curb or other approved barrier to restrict the fuel servicing vehicle from coming closer than within 10 ft. (3 m) of any helicopter rotating components. If an operator cannot provide a curb or approved barrier, fuel servicing vehicles should be kept 20 ft. (6 m) away from any helicopter rotating components and a trained person should direct fuel servicing vehicle approach and departure.

B. Evacuation Procedures. In case of emergencies, an operator's refueling and oxygen replenishment policies and procedures should include any special considerations for the evacuation of passengers (patients). Inspectors should consider the following requirements when evaluating an operator's procedures for evacuation of passengers during helicopter servicing:

(1) If passengers remain onboard an aircraft during fuel or oxygen servicing, at least one qualified person trained in emergency evacuation procedures should be in the aircraft at or near a door at which there is a passenger loading walkway, integral stairs that lead downward, or a passenger loading stair or stand. In the case of any patient(s) remaining on board, there should be enough qualified people trained in emergency evacuation procedures to evacuate the patients.

(2) A clear area for emergency evacuation of the aircraft should be maintained adjacent to not less than one additional exit.

(3) If fueling operations take place with passengers onboard away from the terminal building and stairways are not provided, such as during inclement weather (diversions), the operator should notify the Airport Rescue and Fire Fighting (ARFF) services to assume a stand-by position in the vicinity of the fueling activity with at least one vehicle.

(4) During rapid refueling, the air ambulance helicopter operator should establish specific procedures covering emergency evacuation for each type of aircraft they operate.

(5) Operators should display all "no smoking" signs in the cabin(s), and the crewmembers should enforce the no smoking rule.

1381. POSTFLIGHT PROCEDURES. The PIC is responsible for ensuring compliance with the operator's decontamination procedures for the protection from, and control of, infectious conditions.

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